

At page 143, line 26, after ".", insert --When the RU sends training data, it sets tap coefficients of its precode equalization filter such as filter 563 in Figure 33 to values that cause the precode equalization filter to not predistort the training data signal.--

At page 144, line 8, delete the sentence "The RU then sets these final tap weight coefficients into FFE and DFE equalizers within the precode equalization filter 563 in the transmitter of Figure 33, as symbolized by step 1124." and substitute, --To calculate the new coefficients for the precode equalization filter 563 in the RU transmitter of Figure 33, the old coefficients of the RU precode filter FFE and DFE equalization filter are convolved with the new coefficients FFE and DFE coefficients which the central unit modem symbol equalizer circuit converged on to derive new coefficients. These new coefficients are then set into the RU precode filter.--

At page 144, line 17, delete "tap weight coefficients of FFE and DFE" and substitute --the main tap of said FFE equalizer 921 in Figure 50 to one and sets the side tap coefficients of the FFE equalization filter 921 and the DFE equalization filter 929 in Figure 50 to zero --. At line 18, delete "equalizers 765 and 820, respectively to one".

At page 145, lines 10 through 13, delete the sentence "After convergence, the RU CPU reads the final tap weight coefficients for the FFE equalizer 765 and the DFE equalizer 820 via bus 833 and, in this alternative embodiment, sends these tap weight coefficients to the FFE/DFE circuit 764 in the RU receiver of Figure 30 via bus 822, as symbolized by step 1132." and substitute the following --After convergence, the RU CPU reads the final tap weight coefficients for the FFE equalizer 765 and the DFE equalizer 820 via bus 833 and calculates new tap weight coefficients for the FFE and DFE filters of the CE circuit 764 in the RU receiver of Figure 30 by convolving the old

CE filter tap weights with the FFE and DFE filter tap coefficients converged upon by the SE circuit during reception of multiple bursts of training data, and loads these newly calculated tap weight coefficients into the FFE and DFE filters of CE circuit 764 in the RU receiver of Figure 30 via bus 844, as symbolized by step 1132 of Figure 53C.--

At page 169, line 17, delete "1502" and substitute --1501--.

At page 169, line 21, delete "1504" and substitute --1507--.

At page 169, line 29, delete "1506" and substitute --1509--.

At page 169, line 31, delete "1508" and substitute --1511--.

At page 170, line 2, delete "1510" and substitute --1513--.

At page 170, line 10, delete "1512" and substitute --1515--.

At page 170, line 5, delete "1516" and substitute --1517--.

At page 170, line 12, delete "1514" and substitute --1519--.

At page 170, line 14, after "." and before "Then", insert --The main tap coefficient of the SE feed forward equalization filter is then set to one and the side tap coefficients of the SE feed forward and decision feedback equalization filters are set to zero for receipt of payload data.--

At page 187, delete the entire paragraph that extends from line 24 to line 27.

## IN THE CLAIMS

**Please cancel claims 1-83 from the parent spec and add the below claims:**

1. A Trellis encoder for encoding payload data bits with redundant bits and mapping the resulting bits into a constellation point, comprising:

a plurality of payload data inputs for receiving a plurality of payload bits;

a convolutional encoder having a plurality of inputs coupled directly to a